

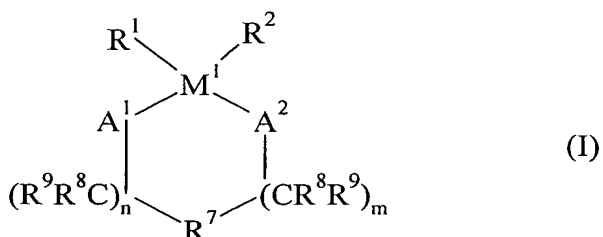
**PROCESS FOR THE OLIGOMERIZATION
OF α -OLEFINS HAVING LOW UNSATURATION**

ABSTRACT OF THE DISCLOSURE

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A process is disclosed for the preparation of a poly(α -olefin) polymer wherein the process comprises polymerizing at least one α -olefin in the presence of hydrogen and a catalytically effective amount of catalyst comprising the product obtained by combining a metallocene catalyst with a cocatalyst, the metallocene catalyst being at least one *meso* compound of general formula:

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wherein:

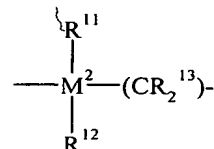
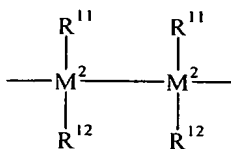
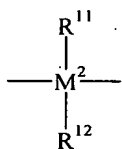
A^1 and A^2 are independently selected from the group consisting of mononuclear and polynuclear hydrocarbons;

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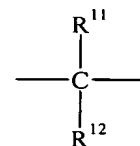
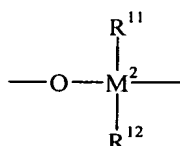
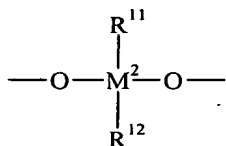
M^1 is a metal from group IVb, Vb, or VIb of the Periodic Table;

R^1 and R^2 are independently selected from the group consisting of hydrogen, C_1 - C_{10} alkyl, C_1 - C_{10} -alkoxy, C_6 - C_{10} aryl, C_6 - C_{10} aryloxy, C_2 - C_{10} alkenyl, C_7 - C_{40} arylalkyl, C_7 - C_{40} alkylaryl, C_8 - C_{40} arylalkenyl and halogen; R^7 is selected from the group consisting of:

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=BR¹¹, =AlR¹¹, -Ge-, -Sn-, -O-, -S-, =SO, =SO₂, =NR¹¹, =CO, =PR¹¹ and =P(O)R¹¹,

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where

R¹¹, R¹², and R¹³ are independently selected from the group consisting of hydrogen, halogen, C₁-C₁₀ alkyl, C₁-C₁₀ fluoroalkyl, C₆-C₁₀ aryl, C₆-C₁₀ fluoroaryl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyl, C₇-C₄₀ arylalkyl, C₈-C₄₀ arylalkenyl, and C₇-C₄₀ alkylaryl, or R¹¹ and R¹² or R¹¹ and R¹³, in each case with the atoms connecting them, form a ring; and M² is selected from the group consisting of silicon, germanium, and tin;

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R⁸ and R⁹ are independently selected from the group consisting of hydrogen, halogen, C₁-C₁₀ alkyl, C₁-C₁₀ fluoroalkyl, C₆-C₁₀ aryl, C₆-C₁₀ fluoroaryl, C₁-C₁₀ alkoxy, C₂-C₁₀ alkenyl, C₇-C₄₀ arylalkyl, C₈-C₄₀ arylalkenyl, and C₇-C₄₀ alkylaryl;

m and n are identical or different and are zero, 1, or 2, with m plus n being zero,

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1 or 2.

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